WHAT IS CLAIMED IS:

1.   A method for determining a heart rate in a pulse oximeter comprising:
determining a first heart rate from a pulse oximetry signal using a first method;
determining a second heart rate from a pulse oximetry signal using a second method;
evaluating a reliability of said first heart rate using metrics applied to said first method;
using said first heart rate when said metrics indicate said first method is reliable; and
using said second heart rate when said metrics indicate that said first heart rate is unreliable.

2.   The method of claim 1 further comprising
determining that said first heart rate is unreliable when said metrics indicate that a most recent pulse is rejected.

3.   The method of claim 1 wherein said first method does not use an ensemble averaged waveform, and said second method does use an ensemble averaged waveform.

4.   The method of claim 1 wherein determining a first and second heart rate each comprise determining a pulse period, and further comprising:
converting a pulse period used into a rate.

5.   A pulse oximeter which determines a heart rate, comprising:
a first heart rate calculator for determining a first heart rate from a pulse oximetry signal using a first method;
a second heart rate calculator for determining a second heart rate from a pulse oximetry signal using a second method;
an evaluator configured to determine the reliability of said first heart rate using metrics applied to said first method; and
a selector configured to use said first heart rate when said metrics indicate said first method is reliable, and to use said second heart rate when said metrics indicate that said first heart rate is unreliable.

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1   6.   The pulse oximeter of claim 5 wherein said selector determines that

2 said first heart rate is unreliable when said metrics indicate that a most recent pulse is

3 rejected.

1   7.   The pulse oximeter of claim 5 wherein said first heart rate calculator

2 does not use an ensemble averaged waveform, and said second heart rate calculator does use

3 an ensemble averaged waveform.